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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/932,003 08/17/2001 Cem Basceri MI22-1731 4185

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EXAMINER

HUYNH, YENNHU B

ART UNIT PAPER NUMBER

2813

DATE MAILED: 12/04/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/932,003	Applicant(s) BASCERI, CEM	
	Examiner Yennhu B Huynh	Art Unit 2813	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 October 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
 If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>2,5,6,8</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Applicant's election without traverse of claims 1-23 in Paper No. 10 is acknowledged.

Claims 24-42 and 43-60 have been canceled by Amendment filed on 10/22/02 and 2/12/02.

Specification

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: Methods Of Forming Capacitor Constructions Comprising Perovskite-Type Dielectric Materials.

Claim Rejections - 35 USC § 112

Claims 1, & 2 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1:

-line 5, recites the limitation: "a portion further from the first electrode..". It is indefinite. Lack of definition, location for the portion. Appropriated correction is required.

-line 6, recites the limitation "a different amount". It is indefinite. How different it is? Appropriated correction is required.

In claim 2 recites the limitation: "less". It is indefinite. How less it is?

Appropriated correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sone (U.S. 6,150,684).

-Re. claims 1, 2, 4 & 16: a first capacitor electrode 4; a perovskite type dielectric material 1 over the first capacitor electrode (fig.2, col.6, lines 58-68), the perovskite type dielectric material having a first edge region proximate the first electrode and a portion further from the first electrode than the first edge region. Sone does not disclose the portion having a different amount of crystallinity than the first edge region, but Sone disclose the thin perovskite dielectric material film is different in each area by growing of columnar grain structure is (col. 1, lines 47-63); forming a second capacitor electrode 5 over the perovskite type dielectric material.

-Re. claim 3: wherein the first edge region is substantially amorphous and wherein the portion is substantially crystalline (col. 4, lines 16-20 and col.7, lines 6-20).

-Re. claims 5, 6, 17 & 18: wherein the perovskite type material has a different chemical composition in the portion than in the edge region (col. 3, lines 6-50 and col.5, lines 27-45, and col. 7&8, lines 32-38).

-Re. claims 7-13 and 19-23: wherein the perovskite type material comprises barium, strontium, titanium and oxygen or with one or more of barium, strontium, lead and zirconium throughout both the portion and the edge region, and uninterrupted CVD (col. 2, lines 23-53, col.7, lines 1-5, col. 8, lines 56-59, and col. 10, lines 3-11 and 35-43).

-Re. claims 14, 15: wherein the first and second capacitor electrodes comprise platinum (col. 4, lines 52-59 and col.5, lines 9-19).

However, Sone does not disclose the perovskite-type dielectric layer comprises a second substantially amorphous against the second electrode (cl.16).

-Re. claim 16: In general, the transportation of process steps or the splitting of one step into two, where the processes are substantially identical or equivalent in terms of function, manner and result, was held to be not patentably distinguish the process. *Ex part Rubin 28 USPQ 159 (POBdPat App 1959)*.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Sone by incorporating the second amorphous material, because the amorphous materials have less leakage when formed against a metallic electrode than a substantially crystalline materials.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yennhu B. Huynh whose telephone number is 703-308-6110. The examiner can normally be reached on M-F 8.30AM-7.00PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl Whitehead, Jr., can be reached 703-308-4940. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

YNBH,

12/2/02


CARL WHITEHEAD, JR.
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800